27 FEB 1968

Statement of

James E. Webb
Administrator

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

before the

Committee on Aeronautical and Space Sciences
United States Senate

Mr. Chairman and Members of the Committee:

Thank you for this opportunity to begin the detailed presentation of the President's authorization request for the NASA Budget for Fiscal Year 1969. When we met with the Committee on January 29, we outlined the broad aspects of the 1968 Operating Plan and related them to the 1969 Budget. In this series of hearings it is our purpose to cover the FY 1969 authorization request in more detail and answer any questions you may have.

As you know, on January 5, Dr. Seamans concluded seven years with NASA, five as Associate Administrator and two as Deputy Administrator. Dr. Thomas Paine, whose nomination to be Deputy Administrator was confirmed three weeks ago on this Committee's recommendation, will join us in a few weeks and complete the central team of senior officers under whose leadership NASA is starting its second ten years. Dr. Homer

Newell, as Associate Administrator, is concentrating on a number of special assignments centering on analysis of policy and planning needs for the decade ahead. Dr. Mueller, Dr. Naugle, Dr. Adams, and Mr. Truszynski, the Associate Administrators in charge of our program offices, will continue to have key roles. They serve both as managers of the four major segments of the NASA program and as officials responsible for and participating in the conduct of the total NASA program, including areas of overall management and public policy. Functional and administrative guidance and support on an agency-wide basis is the responsibility of Mr. Willis Shapley, Associate Deputy Administrator, and Mr. Harold Finger, Associate Administrator for Organization and Management.

In the course of these hearings, these men will report on our progress in the last year and present our plans for FY 1969. They and other members of the NASA staff will be here each day to respond to questions. In addition, as you have requested, they will bring to your attention, as they present the authorization request, a number of typical problems which the NASA system is designed to identify and solve. These will be taken from the number which we currently face and we will be prepared to indicate the steps being taken to overcome them.

Perhaps the most significant NASA achievement last year was the successful all-up test launch and recovery of the

Saturn V-Apollo space system on November 9, 1967. This flight, designated Apollo 4, marked the culmination of more than seven years of developmental activity in design, fabrication, testing and launch-site preparation by tens of thousands of workers in government, industry and universities. 278,000 pounds were placed in earth orbit. America's first satellite, Explorer I, orbited 10 years ago, weighed 31 pounds.

Apollo 4 was the first all-up systems test of the Saturn V-Apollo; the first restart in space of the S-IVB stage, the first re-entry into the earth's atmosphere at the speed of return from the moon -- nearly 25,000 miles per hour; and the first test of our new $500 million Launch Complex 39.

As a measure of the very advanced kind of space capability we are now able to demonstrate, the Apollo 4 lift-off occurred within one second of planned time, and re-entry of the Apollo spacecraft 11 hours later was so precise that its splashdown was less than five miles from the planned point.

The Apollo 5 was the first unmanned earth-orbital flight test of a Lunar Module and was completed on January 22, 1968. As a result of these successful tests, every hardware unit for the Apollo system has now been flown, except for the re-designed Block II Command Module, which will fly later this year.

Another important milestone was the completion of our unmanned lunar exploration program. The fifth successful

Lunar Orbiter mission was completed on January 31, 1968. On January 9, 1968, Surveyor VII landed in the area of the crater Tycho and returned important data. Between them, four Surveyors and five Lunar Orbiters have transmitted a total of more than 89,000 pictures of the moon, both near and far side. These have inestimable scientific value and have enabled us to select and certify sites for the first manned landings. Some of the Surveyors performed chemical analyses of the lunar surface, and tested its physical characteristics. The technology of soft-landing on another body in space is now available.

Biosatèàlite II, launched Spetember 7, provided the first opportunity to observe plant growth in space under weightless conditions. This satellite also made the first use of a controlled radiation source in space to study the combined effects of radiation and weightlessness on living organisms. The significant results of these experiments were presented last Friday and Saturday at a symposium here in Washington, jointly sponsored by NASA and the National Academy of Sciences.

The Mariner V probe passed within 2,500 miles of Venus on October 19, 1967, after flying 217 million miles in four months. It made the first radio occulation of the Venusian atmosphere. This provided valuable data, which scientists are still analyzing, regarding Venus and its environment.

Orbiting Solar Observatories launched March 8 and October 18, 1967 are now being used to survey the sun's activity and to learn how it affects radio blackout, the earth's weather, and other phenomena. OSO-IV made the first "color" picture of the sun -- an ultraviolet chart of the surface temperature.

ATS-III, an Applications Technology Satellite launched November 5, has provided the first continuous high-quality color pictures of the earth from "stationary" orbit. This satellite together with ATS-I provide two versatile experimental weather-voice-television satellites spanning the Atlantic and Pacific Oceans.

NASA launched three Intelsat commercial communications satellites for Comsat Corporation and three weather satellites for ESSA. These insured continued weather and communications coverage from space and demonstrated again the direct benefits resulting from the use of space.

On December 13, Pioneer VIII was boosted from Cape Kennedy into orbit around the sun. This spacecraft and Pioneers VI and VII are now investigating the interplanetary medium from three different locations at the same time.

This remarkable series of successes shows how far we have come since the beginning of the Space Age ten years ago. Five years ago, every success was major news. Today a failure is a rare occurrence, and success is treated almost routinely, no

matter how difficult the task or how significant the achievement.

For the past three years NASA has been required, by overriding fiscal considerations, to cut back programs, slow down production, and limit goals. As we reported to you last November in presenting our FY 1968 Operating Plan, and again in the budget briefing last month, the FY 1968 authorization total was $4,866 million -- $234 million below the budget request, and the appropriation at $4,590 million was $511 million below the budget request -- $277 million below the authorization.

For the current year, FY 1968, appropriations for "Research and Development", other than for Apollo, are 20 per cent below the budget request; "Construction of Facilities" funds are less than one-half of the budget request; and "Administrative Operations" have been reduced to a level which has necessitated a reduction in Civil Service personnel by about 5% and total administrative costs by about 7%.

For FY 1969, the President's budget is even more stringent. The NASA FY 1969 authorization request is for $4,370 million, $700 million below the amount requested last. It is almost $500 million less than this year's authorization and is $200 million below this year's appropriation. NASA's expenditures for FY 1969 will be down $230 million from this year, $850 million

below last year, and $1.3 billion less than in FY 1966.

The NASA program has been cut. I hope you will decide it has been cut enough and will approve the full amount recommended by the President.

The FY 1969 request does not meet all our Nation's needs in aeronautics and space. It is a compromise -- one which I fully support -- between needed work toward advances in aeronautics and space which we can and should make, and the overriding requirements to minimize expenditures in FY 1968 and FY 1969 in order to reduce inflationary pressures on the economy and to meet the demands on the Budget of the Vietnam war and other pressing national needs. The President was forced, in spite of his conviction as to the importance of a larger effort in aeronautics and space, to accept reductions in NASA's budget as submitted for FY 1968 and to recommend in his 1969 budget an even lower level. This means that for NASA 1968 and 1969 are years of retrenchment and deferral, years in which we will be completing programs started in previous years and endeavoring to make limited further advances. Under these conditions we will devote a major effort to stabilizing our organization and the resource base we have built.

During this period when we are reducing our effort by one-third, the USSR is still maintaining or increasing its efforts in aeronautics and space. We must therefore face the probability that in the coming year, and in those following, the Soviets will continue to deomonstrate capabilities beyond those which we will have. I believe that they will soon be in position to launch a booster with greater thrust than the Saturn V. I expect them to resume manned space flights soon. They may well land sizeable instrument packages on Mars in 1969 and again in 1971. In terms of scientific advances and in applications of immediate economic use, such as meteorological and communications systems, our program has contributed more than theirs. But in terms of the use of large launch vehicles and in the rate at which future greater capabilities are being developed, they are ahead and will remain ahead, at our 1969 budget level. The hard fact is that just as we have begun to catch up in large-scale booster operations -- as shown by the flights of Apollo 4 and 5 and the bringing into operation of Launch Complexes 34, 37 and 39 -- we are cutting back our program while

they continue to advance.

Briefly stated the FY 1969 programs that we are presenting and some of the guidelines on which they are based are:

--- In the Apollo program we will continue on the schedule we presented to this Committee on November 8, 1967, in the hearings on NASA's 1968 Operating plan. A manned lunar landing by the end of 1969 depends on success in practically every one of the eight Satrun V flights remaining in our operational plan for 1968 and 1969. Our schedules and our budget estimates are based on success in utilizing the all-up test concept for both the Saturn V and Apollo. At the 1969 budget level, our ability to overcome promptly any serious problems which our ground tests or launches disclose is greatly reduced.

--- In Apollo Applications, we are reducing production rates in order to hold expenditures to a minimum in FY 1968 and FY 1969. The delivery rate of Saturn IB's after the first 12 and of Saturn V's after the first 15 will be reduced to two per year.

We are also carefully analyzing with the Department of Defense future requirements for large launch vehicles and will consider further adjustments. No Apollo Applications flights will be scheduled until after the first manned lunar landing, and the number of launches will be limited.

--- We are proposing in this authorization request that the earth-orbital phase of the Apollo Applications program focus on a Saturn V Workshop as the next major step in manned space flight. Dr. Mueller will discuss this proposal in his statement tomorrow. The Saturn I Workshop authorized in FY 1968 will serve as an interim step toward the Saturn V Workshop, and will be used in association with the Apollo Telescope Mount as we described to you last year. Under our reduced budget, this is a logical approach to the development of manned flight in the period following the lunar landing. However, under our budget constraints, the earliest launch of the Saturn I Workshop will be in 1970 and the first ATM launch will not come before 1971.

--- Many other programs have also been stretched out and some will be terminated. For example, in the Physics and Astronomy program, the launch schedule for the Pioneer spacecraft has been revised so that there is now a gap of more than three years between Pioneer E and the first of the next two missions, Pioneer F and G. We are having to phase out aeronautical flight research using the X-15 and XB-70. We are terminating the orbiting geophysical observatory program after OGO-F now scheduled to be launched early in 1969.

--- The new starts in our program are few in number and have been reduced in scope. Instead of the NERVA II nuclear engine proposed last year, we propose to proceed with the smaller NERVA I. As we have testified on other occasions, this will provide a means for increasing significantly the capability of the Saturn V launch vehicle, but will not require the construction of extensive engine development and test facilities. In the planetary program, in place of the Voyager missions which were rejected last year, we are now proposing a planetary program with reduced objectives using spacecraft of the less costly Mariner class. As Dr. Naugle will explain in detail, this program includes two Mars orbiter missions

in 1971 and two in 1973, with the 1973 missions also including a survival rough landing capsule.

--- In two areas -- aeronautics and space applications -- we are proposing a modest expansion of current levels because of the urgency and expected value of the results we anticipate. In aeronautics, technology developed in space programs is now able to make important contributions to the improvement of aircraft. We propose to devote increased effort to noise reduction and to vertical and short take-off and landing aircraft. In space applications, we are proposing to increase our experimental work related to the utilization of space systems for direct applications of economic benefit. For example, Nimbus D, planned for 1970, offers a major step forward in weather forecasting through charting the vertical structure and composition of the Earth's atmosphere. We also plan to enlarge the program in which we are working with other Federal agencies to use aircraft to experiment with techniques and instruments for remote measurement of earth resources. We also propose to move ahead with definition studies of a possible future satellite system for acquiring earth resources data.

As we implement our FY 1968 operating plan and prepare for FY 1969, we are reassessing our NASA Center work assignments and organization as our work force is reduced. Our objective is to retain in our research and development centers, after the reductions are made, a limited but strong and well-balanced team of scientists, engineers, and program and project managers. In our work with industrial contractors and universities, where employment on NASA work is down by about 135,000 from a peak in FY 1966 and is still dropping at a rate of about 4,000 per month, we plan to develop new ways through which the supporting research and technology funds in our contracts and an extension of step funding of university projects can help stabilize the operations on which the Nation's most experienced scientific and technical teams depend. In all these actions, we are emphasizing the continuing need for basic research and basic work in technology to ensure that we will continue to strengthen our national resource base and have the ability to move forward again on a firm basis in the years to come.

Mr. Chairman, this completes my statement.